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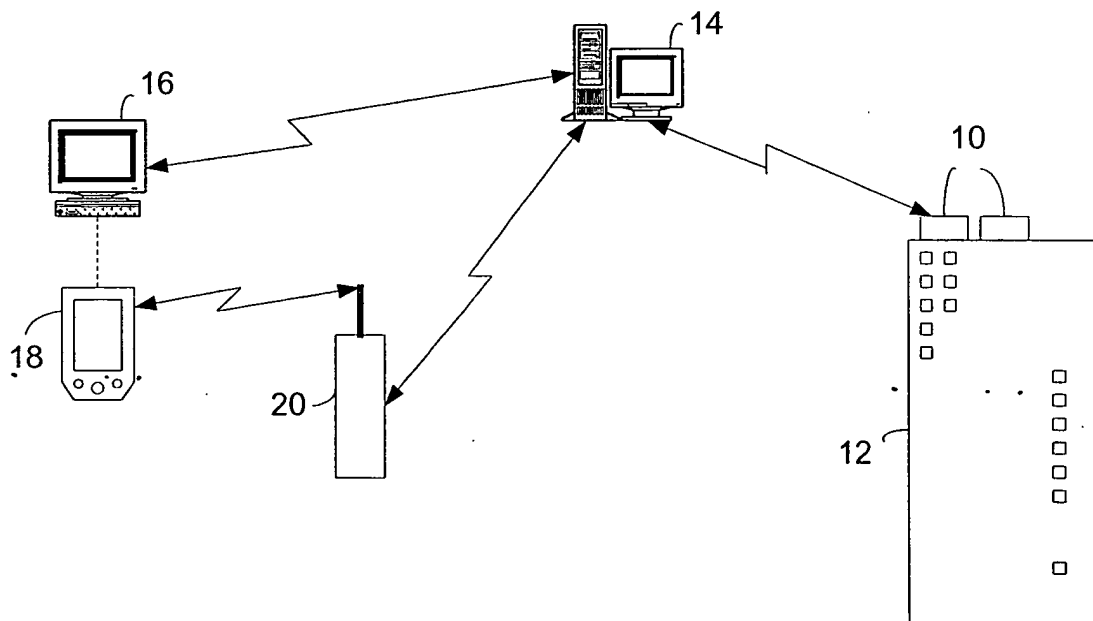


FIG. 1

FIG. 1

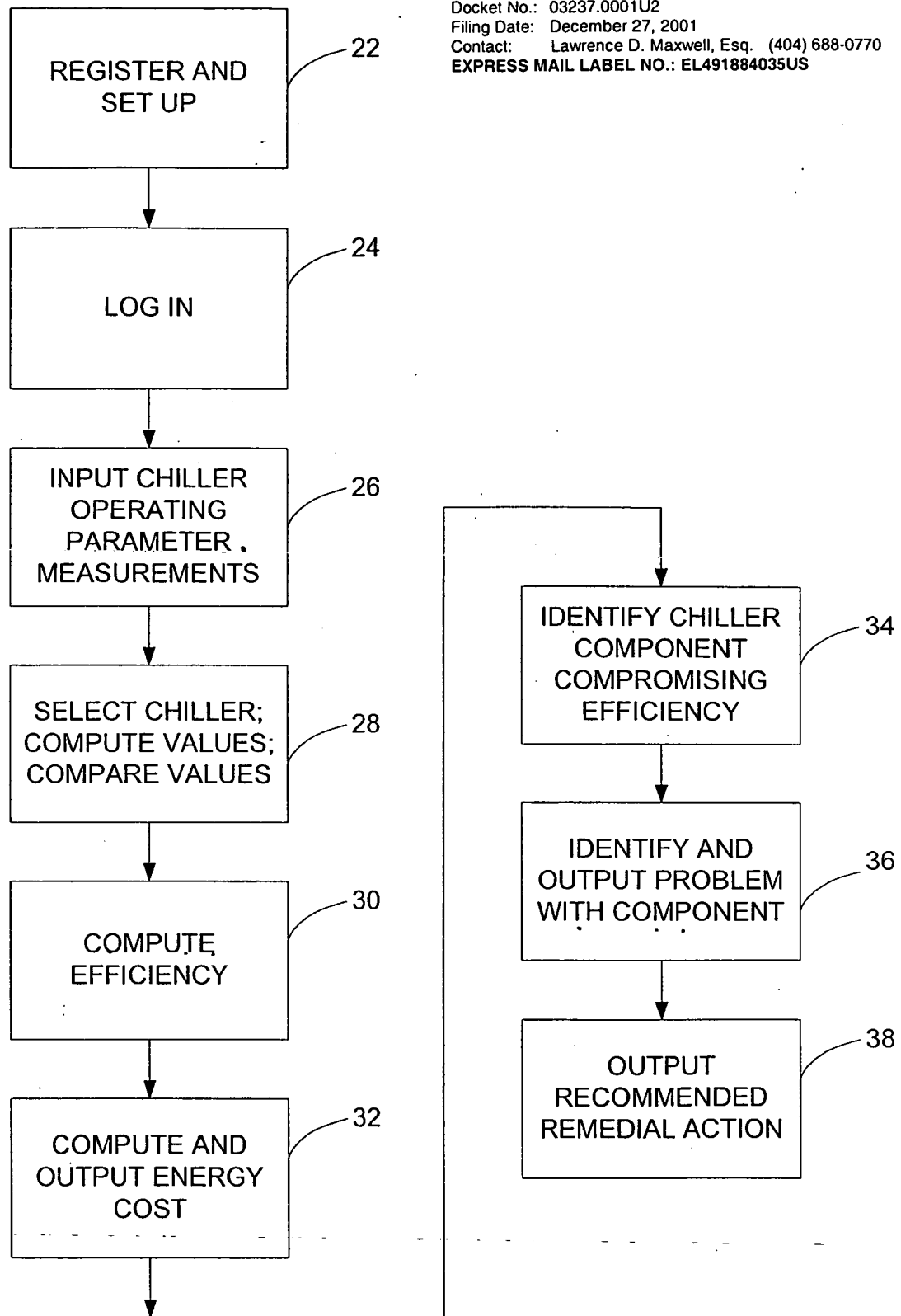


FIG. 2

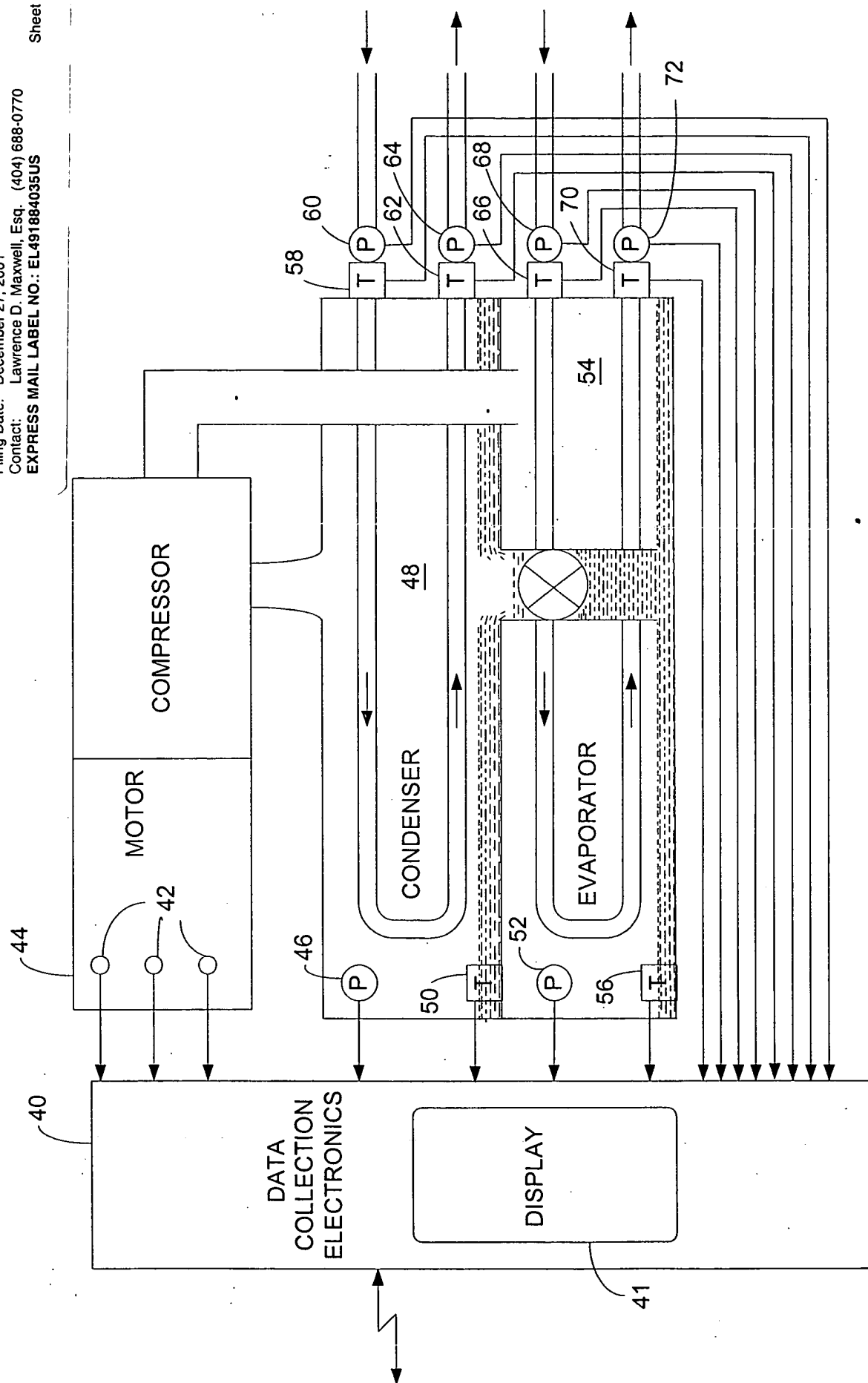


FIG. 3

10034785-122701

ChillerCheck.com - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address http://chillercheck.com/ Go Links Activity Community Customize Links

CHILLERCHECK.COM

Welcome to ChillerCheck.com.

If you are a current user, please log in using the form below.

If you do not currently have a username and password, or if you have forgotten one or both of them, please send an e-mail to help@chillercheck.com.

If you'd like to learn more about the ChillerCheck service and how to subscribe, [click here](#).

Username:

Password:

Click here to login

Done Internet

78

74

76

FIG. 4

Inventor: Lawrence J. Seigel
Title: "METHOD AND SYSTEM FOR EVALUATING THE EFFICIENCY
OF AN AIR CONDITIONING APPARATUS"
Serial No.: Unassigned
Docket No.: 03237.0001U2
Filing Date: December 27, 2001
Contact: Lawrence D. Maxwell, Esq. (404) 688-0770
EXPRESS MAIL LABEL NO.: EL491884035US

10034785-122701

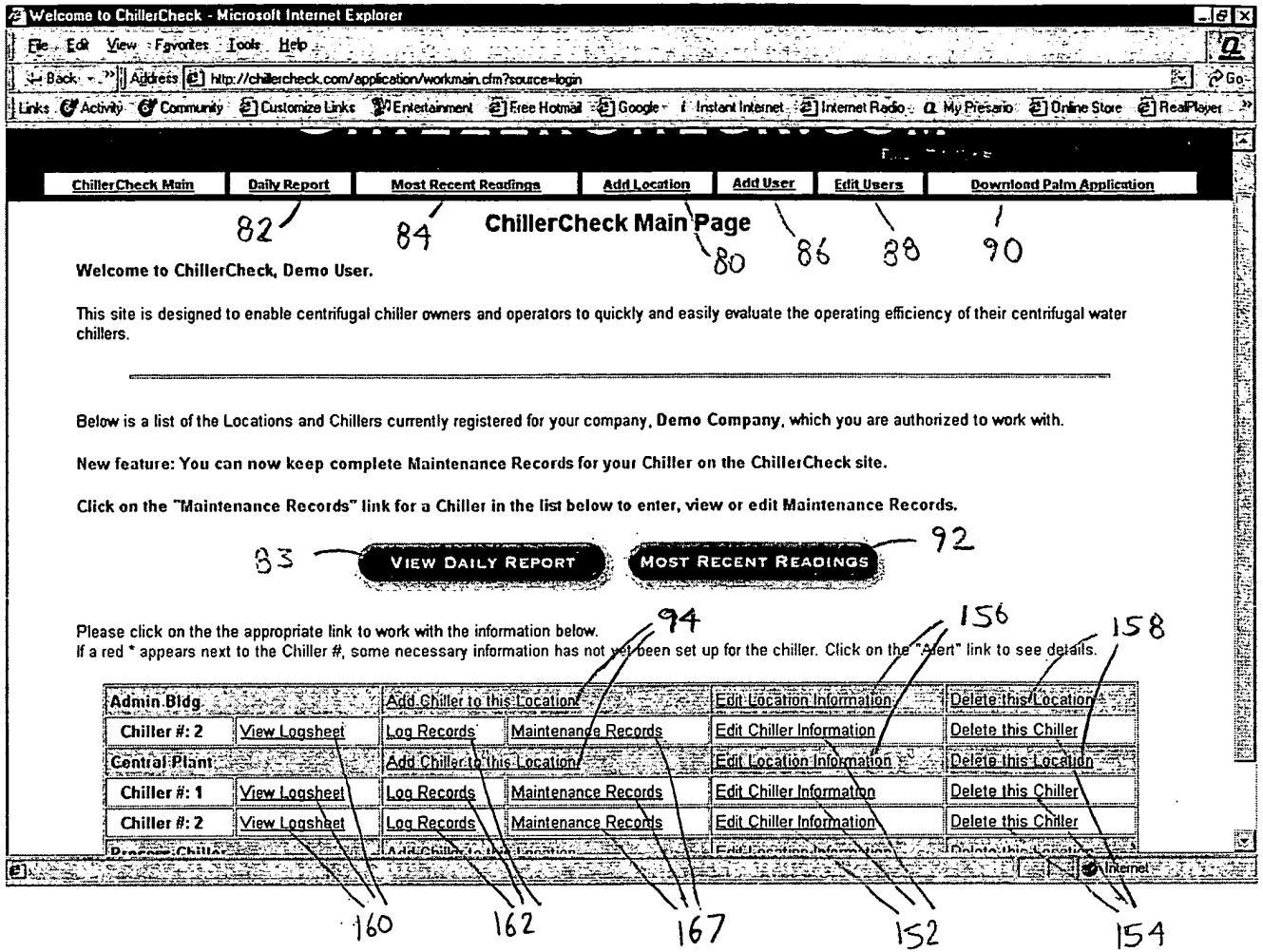


FIG. 5

CHILLERCHECK.COM

ChillerCheck Main	Daily Report	Most Recent Readings	Add Location	Add User	Edit Users	Download Palm Application
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82 84 Add a Chiller at Atlanta Office Bldg. 80 86 88 90

Please fill in all information in the form below, then click the "Add Chiller" button.

You will then be taken back to the ChillerCheck Main page, where you can work with any of your Location, Chiller or Chiller Log records.

Note: If you do not have all the information below available at this time, you can still add the Chiller by filling out only the required information (marked with a * below) now. You can come back later and add the rest of the information. However, you will not be able to make efficiency calculations or graph trends until all Chiller information has been recorded.

Chiller Information

Help! * Chiller #:	<input type="text"/>	96
* Make:	Choose a Make <input type="checkbox"/>	98
Help! * Model:	<input type="text"/>	100
Help! Serial #:	<input type="text"/>	102
Help! * Refrigerant Type:	Choose a refrigerant <input type="checkbox"/>	104
Help! Year Chiller Was Manufactured:	Choose a year of manufacture <input type="checkbox"/>	106
Help! * Efficiency Rating (kw/ton):	<input type="text"/>	108
Help! * Energy Cost (\$/kw hour):	<input type="text"/>	110

FIG. 6A

10034785.122701

Help! * Weekly Hrs. of Operation:	<input type="text"/> 112
Help! * Weeks Per Year of Operation:	<input type="text"/> 114
Help! * Average Load Profile:	<input type="text"/> % 116
Help! * Tons:	<input type="text"/> 118
Help! * Design Voltage:	<input type="text"/> 120
Help! * Full-Load Amperage:	<input type="text"/> 122
Now we need some information about the Condenser.	
Help! Design Condenser Water Pressure Drop: (This value may be omitted if necessary, but your calculations will be more accurate if you have it. If you enter a value, you must choose a unit of measure.)	<input type="text"/> 124 Choose a pressure unit <input type="text"/> 126
Help! Please choose a unit of measurement for the Actual Condenser Water Pressure Drop:	Choose a pressure unit <input type="text"/> 128
Help! Please choose a unit of measurement for Condenser Pressure:	Choose a pressure unit <input type="text"/> 130
Design Condenser Approach Temp: (This value may be omitted if you do not have it.)	<input type="text"/> 132

FIG. 6B

10034785-122701

10034785.122701

Now we need some information about the Evaporator.	
<p>Help! Design</p> <p>Chill Water Pressure Drop: (This value may be omitted if necessary, but your calculations will be more accurate if you have it. If you enter a value, you must choose a unit of measure.)</p>	<p><input type="text"/> Choose a pressure unit <input type="button" value="v"/></p> <p>134 136</p>
<p>Help! Please</p> <p>choose a unit of measurement for the Actual Chill Water Pressure Drop:</p>	<p><input type="text"/> Choose a pressure unit <input type="button" value="v"/></p> <p>138</p>
<p>Help! Please</p> <p>choose a unit of measurement for Evaporator Pressure:</p>	<p><input type="text"/> Choose a pressure unit <input type="button" value="v"/></p> <p>140</p>
<p>Help! Design</p> <p>Evaporator Approach Temp: (This value may be omitted if you do not have it.)</p>	<p><input type="text"/></p> <p>142</p>
<p>Help! Evaporator</p> <p>Design Outlet Water Temp:</p>	<p><input type="text"/></p> <p>144</p>
Please choose a method of calculating Oil Pressure Differential for the Compressor.	
<p>Help! Calculate</p> <p>Differential by:</p>	<p><input type="text"/> Choose a method <input type="button" value="v"/></p> <p>146</p>

10034785.122701

There are just a few more things we need to know about this chiller.

Does this chiller have a readout for Purge Run Time?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No 143
If so, is the Purge Run Time measured only in minutes, or in both hours and minutes?	<input checked="" type="radio"/> Minutes Only <input checked="" type="radio"/> Hours and Minutes 145
Please set a maximum amount of Purge Run Time per day you wish to allow before you are sent an alert.	147 : Minutes
Does this chiller have a readout for Bearing Temperature?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No 149
Operator Notes: (Enter any notes you might want to record about this chiller.)	150
Add Chiller Info	

148

FIG. 6D

Inventor: Lawrence J. Seigel
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 Serial No.: Unassigned
 Docket No.: 03237.0001U2
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 Contact: Lawrence D. Maxwell, Esq. (404) 688-0770
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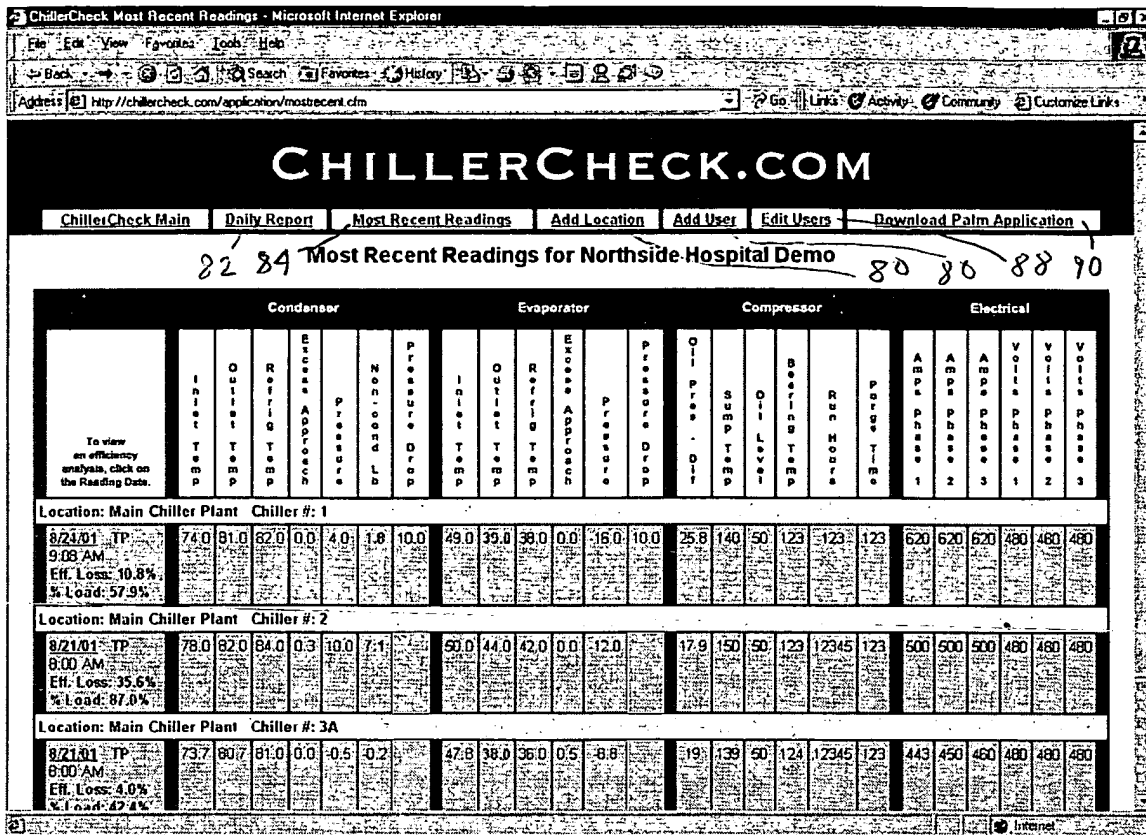


FIG. 7

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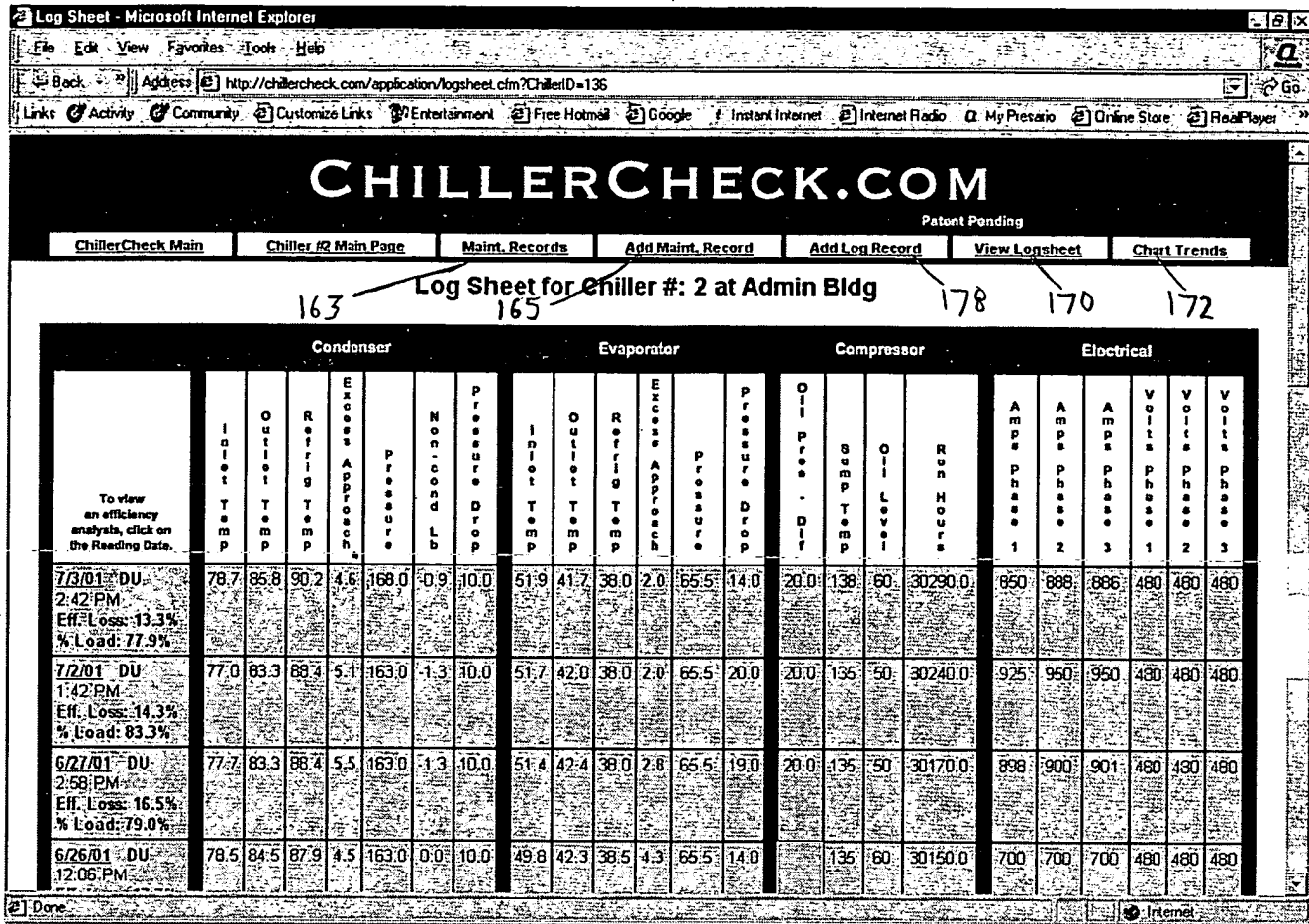


FIG. 8

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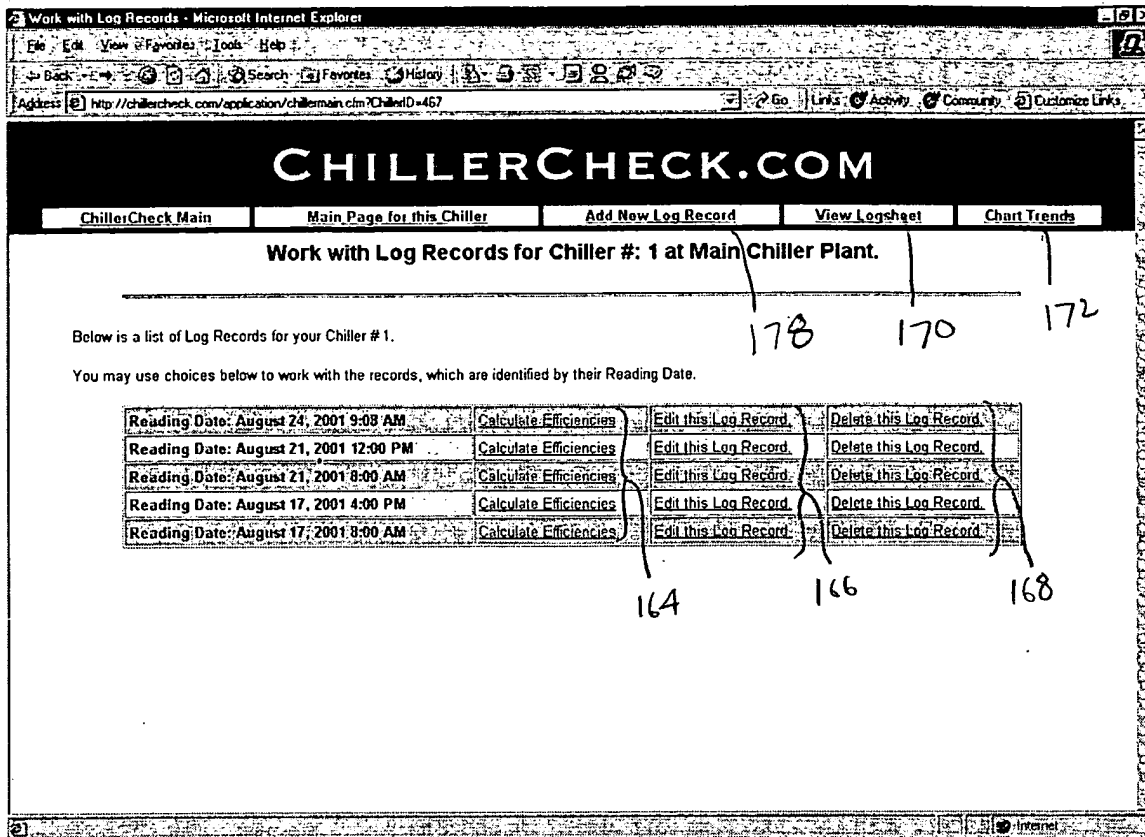


FIG. 9

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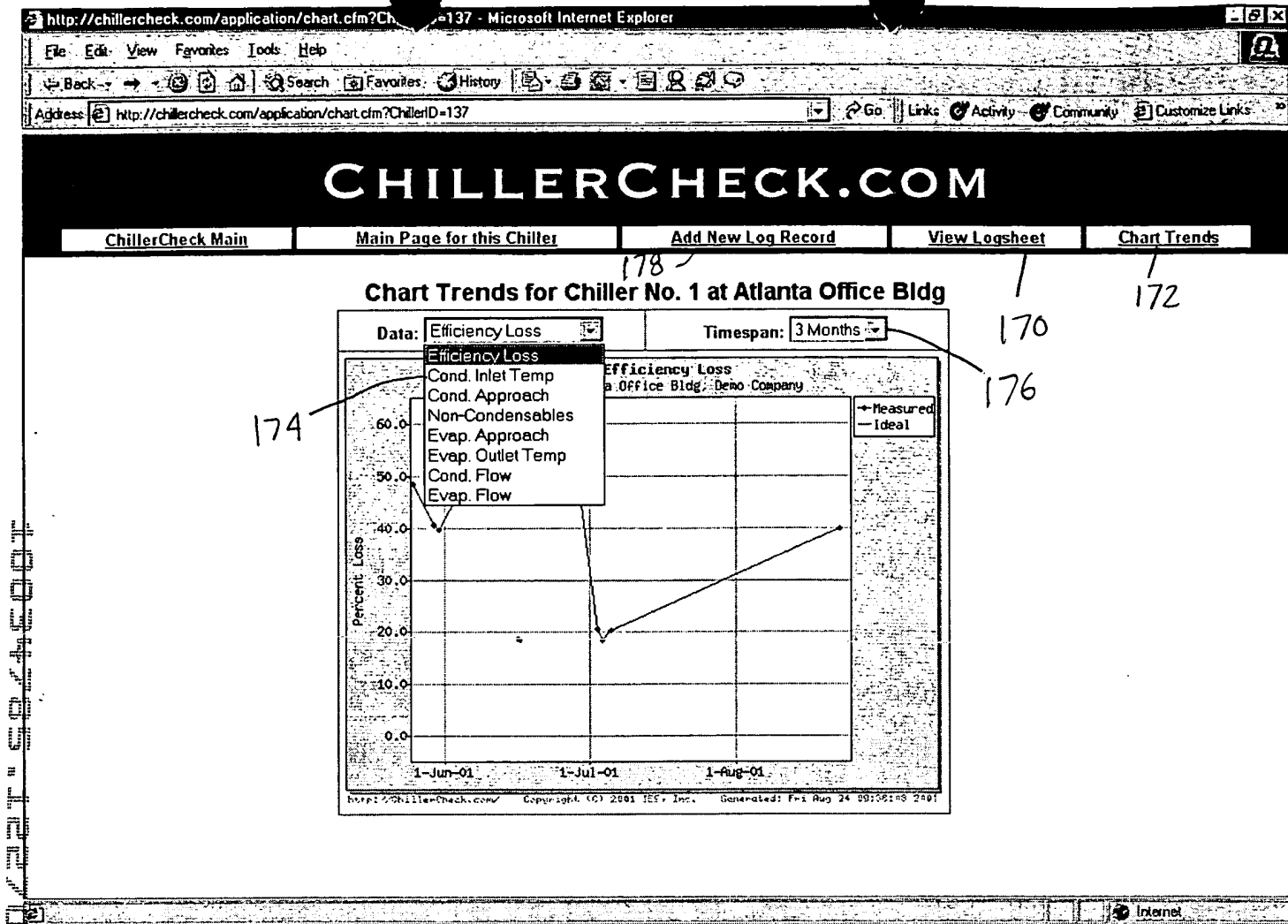


FIG. 10

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CHILLERCHECK.COM

ChillerCheck Main | Main Page for this Chiller | Add New Log Record | View Logsheets | Chart Trends

Add a Log Record for Chiller #: 1 at Main Chiller Plant.

Please enter your readings into the form below, then click the "Add Record" button:

Log Record

Operator:	Tim	180
Reading Date:	August 24, 2001	
Reading Time:	9:32 AM	182
Condenser Readings		
Inlet Water Temp:	<input type="text"/> °F 184	
Outlet Water Temp:	<input type="text"/> °F 186	
Refrigerant Temp:	<input type="text"/> °F 188	
Condenser Pressure:	<input type="text"/> PSIG 190	
Actual Condenser Water Pressure Drop:	<input type="text"/> PSIG 192	
Evaporator Readings		
Inlet Water Temp:	<input type="text"/> °F 194	
Outlet Water Temp:	<input type="text"/> °F 196	
Refrigerant Temp:	<input type="text"/> °F 198	
Evaporator Pressure:	<input type="text"/> In. Hg. 200	
Actual Chill Water Pressure Drop:	<input type="text"/> PSIG 202	

FIG. 11A

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Sheet 14 of 22

10034785-122701

10034785.122701

Compressor Readings	
Oil Pressure (High):	<input type="text"/> lb. 204
Oil Sump Temp:	<input type="text"/> °F 206
Oil Level:	<input type="text"/> % 208
Bearing Temp:	<input type="text"/> °F 210
Run Hours:	<input type="text"/> 212
Purge Pumpout Time:	<input type="text"/> 214
Electrical Readings	
Amps Phase 1:	<input type="text"/> 216
Amps Phase 2:	<input type="text"/> 218
Amps Phase 3:	<input type="text"/> 220
Volts Phase 1:	<input type="text"/> 222
Volts Phase 2:	<input type="text"/> 224
Volts Phase 3:	<input type="text"/> 226
Operator Notes	
<div style="border: 1px solid black; height: 100px; width: 100%; position: relative;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%);">228</div> </div>	
<div style="border: 1px solid black; padding: 5px; display: flex; justify-content: flex-end; align-items: center;"> <div style="border: 1px solid black; padding: 2px 5px;">Add Log Record</div> <div style="margin-left: 10px;">230</div> </div>	

FIG. 11B

Inventor: Lawrence J. Seigel
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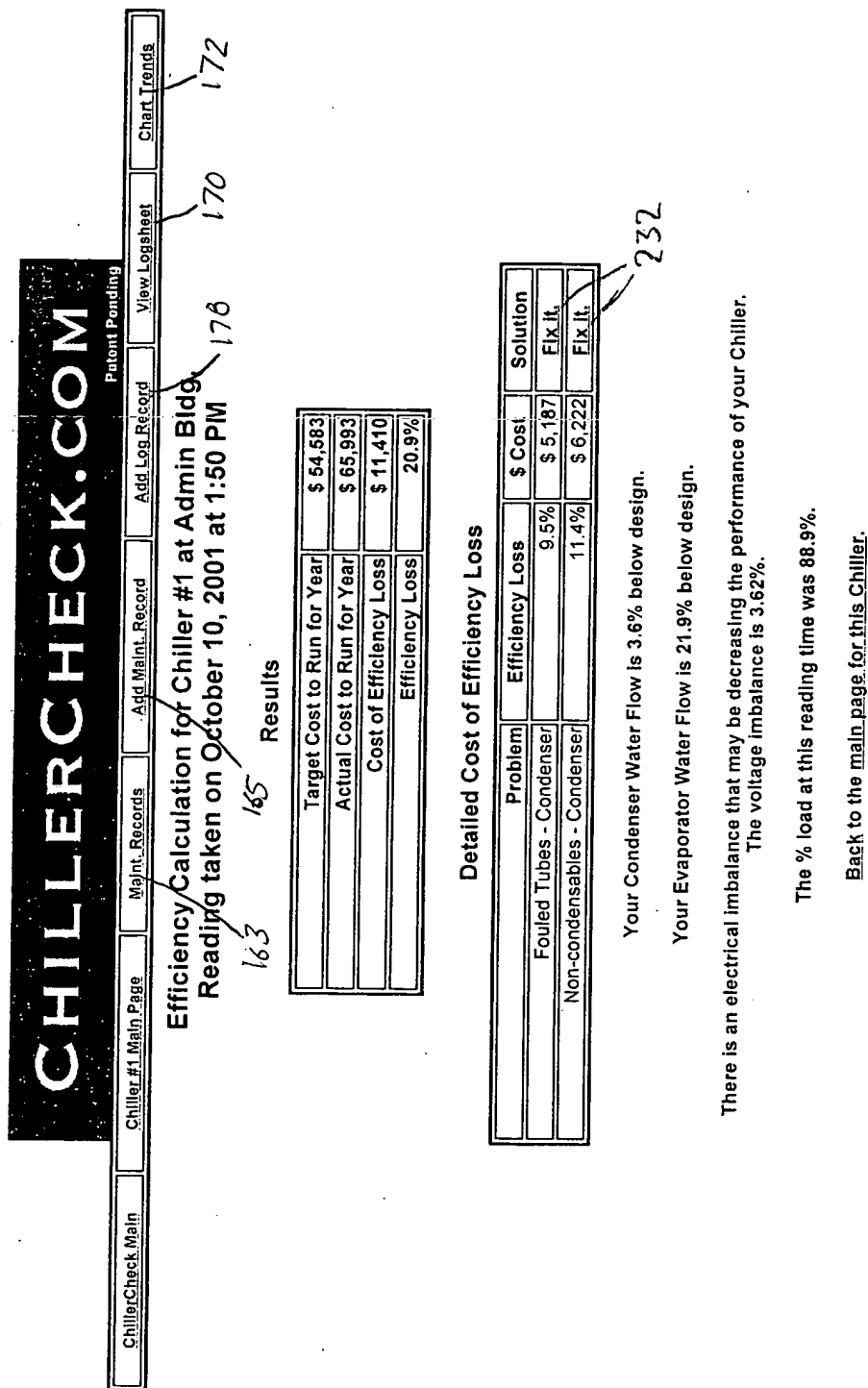


FIG. 12

Inventor: Lawrence J. Seigel
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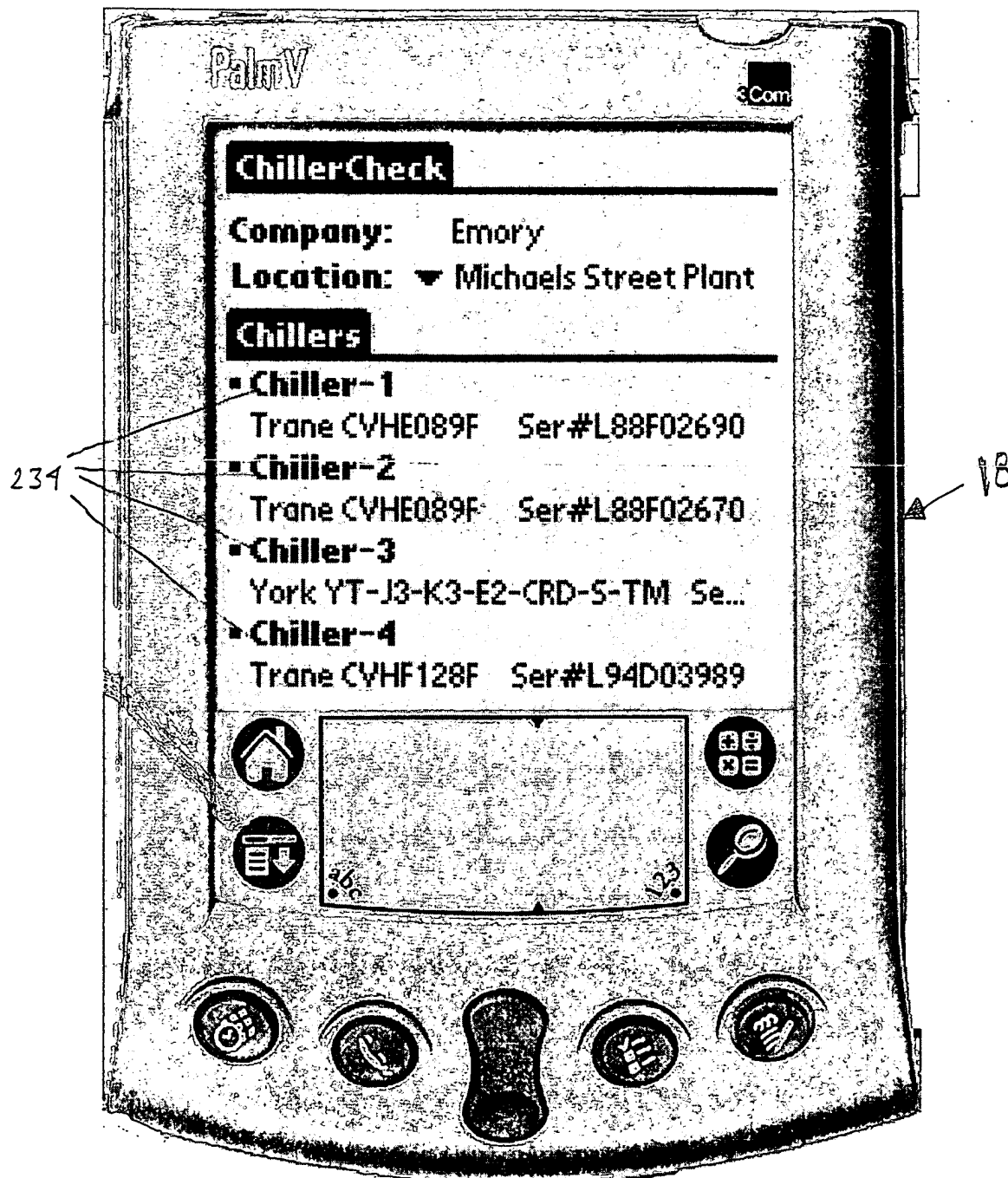


FIG. 13

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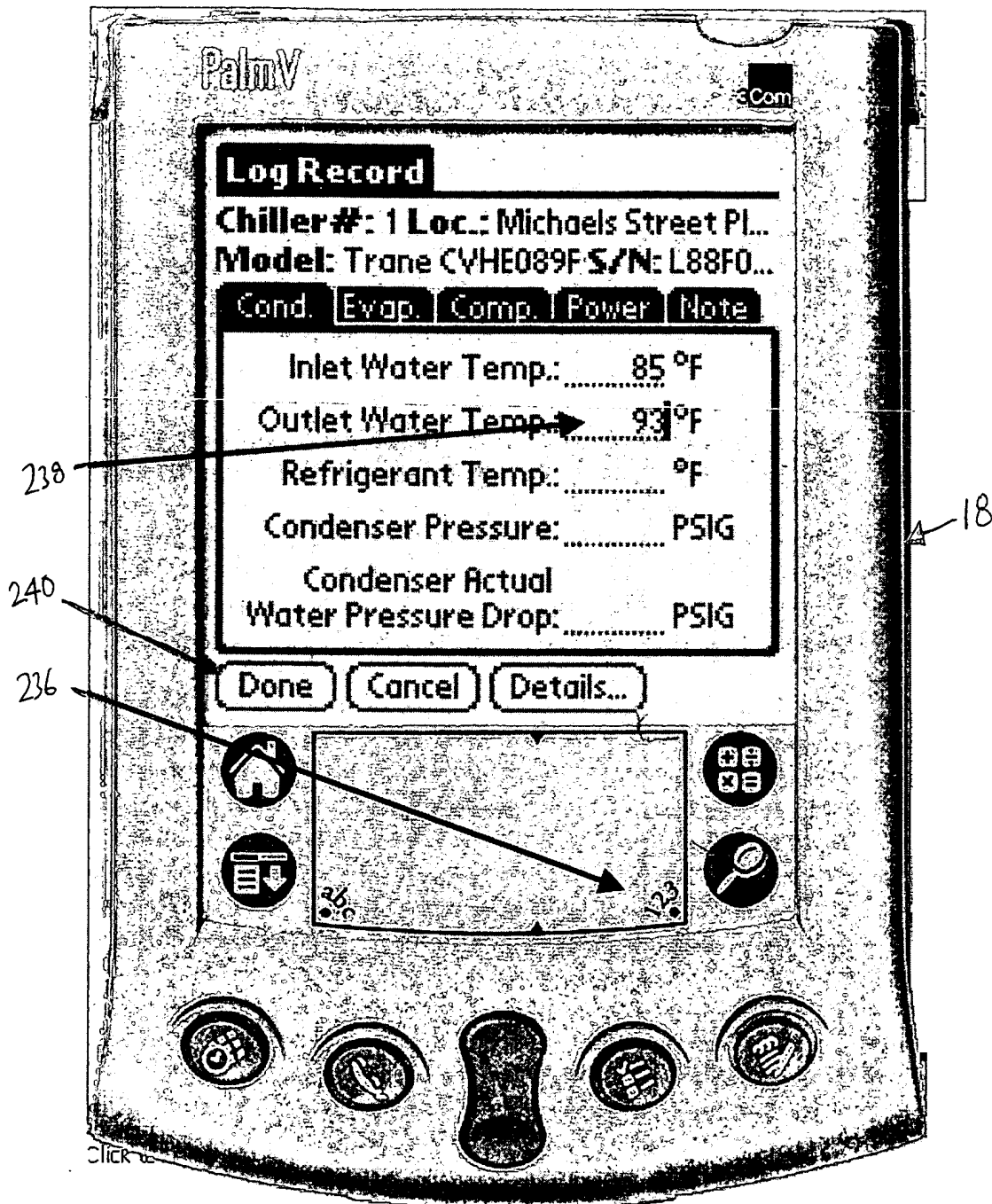


FIG. 14

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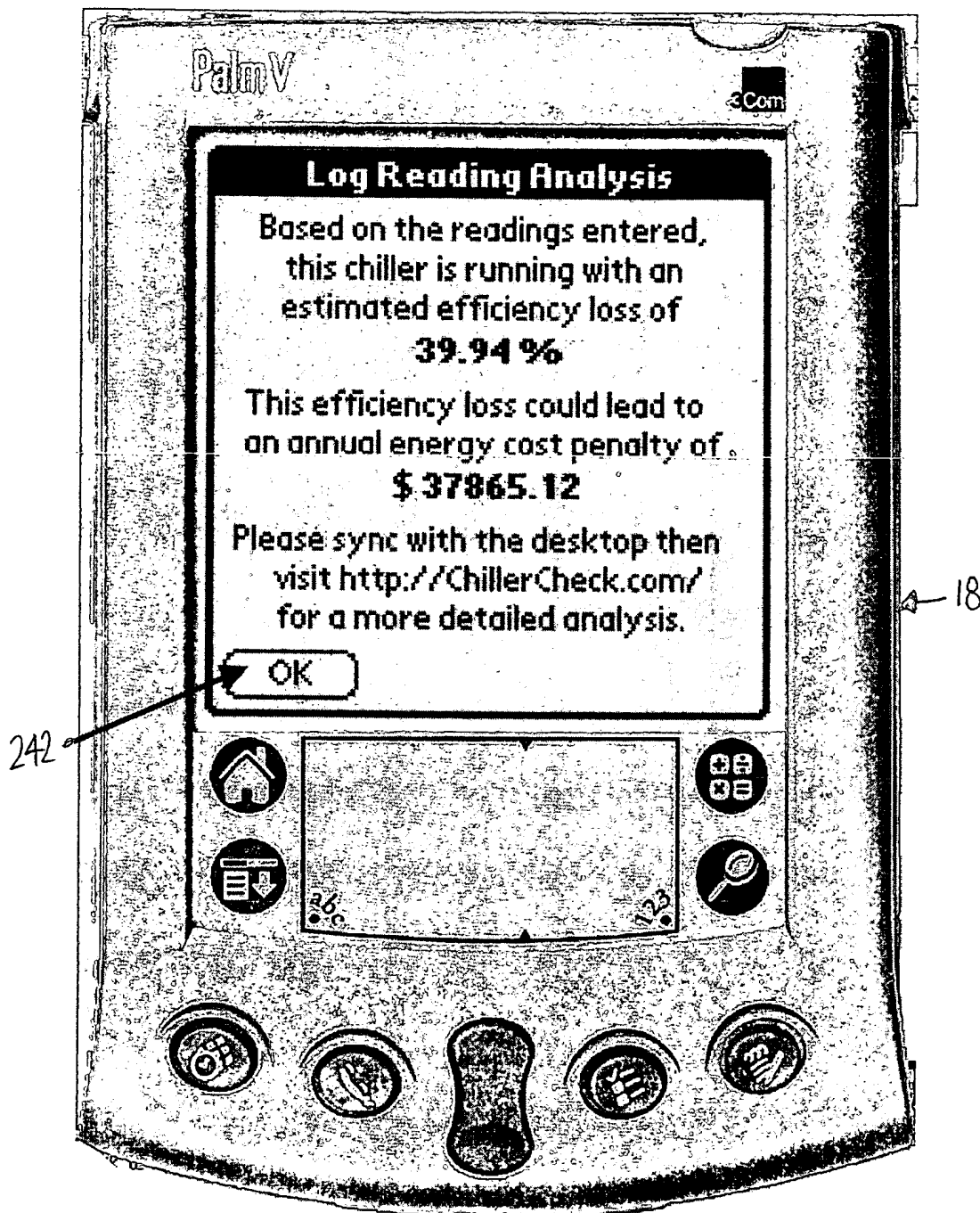


FIG. 15

Inventor: Lawrence J. Seigel
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CHILLERCHECK.COM

Patent Pending

ChillerCheck Main Chiller #1 Main Page Maint. Records Add Maint. Record Add Log Record View Logsheet Chart Trends

Add Maintenance Record for Chiller #1 at Admin Bldg.

Please fill in all information in the form below, then click the "Add Maintenance Record" button.

You will then be taken back to the Maintenance page for this chiller.

Maintenance Information

Annual Maintenance Date:	Select a Month	Day	Year
Oil Maintenance			
Oil Change Date:	Select a Month	Day	Year
Date Oil Added:	Select a Month	Day	Year
Quantity of Oil Added (Gallons):			
Oil Analysis Date:	Select a Month	Day	Year
Eddy Current Tests			
Eddy Current Test Date (Condenser):	Select a Month	Day	Year
Eddy Current Test Date (Evaporator):	Select a Month	Day	Year
Major Stop Inspection (compressor teardown)			
Major Stop Inspection:	Select a Month	Day	Year
Refrigerant Maintenance			
Refrigerant Analysis Date:	Select a Month	Day	Year
Date Refrigerant Added:	Select a Month	Day	Year
Quantity of Refrigerant Added (Pounds):			
Tube Cleaning			
Condenser Tube Cleaning Date:	Select a Month	Day	Year
Evaporator Tube Cleaning Date:	Select a Month	Day	Year
Purge Maintenance			
Purge Tank Reclaim Date:	Select a Month	Day	Year
Purge Run Time Reading When Tank Reclaimed:			

FIG. 16A

10034785-122701

10034785.122701

Purge Filter Dryer Change Date:		Select a Month	Day	Year
Major Repairs				
Major Repair Date:		Select a Month	Day	Year
Major Repair Description:				
Notes				
Maintenance Notes: (You may enter a note about any type of maintenance.)				
Add Maintenance Record				

FIG. 16B

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CHILLERCHECK.COM

Patent Pending

ChillerCheck Main Chiller #1 Main Page Maint. Records Add Maint. Record Add Log Record View Logsheet Chart Trends

Maintenance Records for Chiller #: 1 at Admin Bldg.

Below is a list of the most recent Maintenance Operations for your Chiller # 1. You may click on the name of a Maintenance Type to view all records of that type.

Maintenance Type	Most Recent Maintenance
Annual Maintenance:	October 18, 2001
Oil Maintenance	
Oil Change:	October 18, 2001
Oil Analysis:	October 1, 2001
Eddy Current Tests	
Condenser Eddy Current:	September 9, 2001
Evaporator Eddy Current:	September 10, 2001
Major Stop Inspection (compressor teardown)	
Major Stop:	January 3, 2000
Refrigerant Maintenance	
Refrigerant Analysis:	January 3, 2000
Refrigerant Added:	August 23, 2001 – Quantity: 100 Pounds
Tube Cleaning	
Condenser Tube Cleaning:	October 19, 2001
Evaporator Tube Cleaning:	February 5, 2000
Purge Maintenance	
Purge Tank Reclaim:	February 7, 2001 – Purge Run Time at Change: 1212123
Major Repairs	
Major Repair:	April 4, 2000 Repair Description: motor burnout
Maintenance Notes	
Notes:	November 5, 2001 Note: starter problems resulted in burnout

FIG. 17

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Sheet 21 of 22

10034785.122701